Operator <u>ENVIYON</u>	MEUTAL GEOT	Echnologies	State Permit No.	115M453
Address 1216 1			USEPA Permit No	MI-163-1W-COI
Detroit	MichigAN	48226	Date of Test (0/	26/13
Well Name WEI	1-12 (tes			1-Hazardous Con
LOCATION INFOR			theQuarter of t	
of Section 12	; Range	7e ; Towns	hip <u>35</u> ; County	Waylue ;
Company Representa	ative K. Schile	dhouse; F	Field Inspector J. Www.	czak ;
Type of Pressure Gau	uge	inch face;	psi full scale;	psi increments;
	No I If no, date o	of calibration	Calibration certification s	ubmitted? Yes ☑ No □
TEST RESULTS Readings must be tal	ran at least avery 11	O minuted for a	5-year or annual test	on time? Yes 🗆 No 🗆
minimum of 30 min	_		2-year test for TA'd wells	on time? Yes 🗆 No 🗆
minutes for Class I v		111 11 200	Afte	r rework? Yes 🗆 No 🗆
For Class II wells, ar psig. For Class I we			Newly permi	tted well? Yes 🖊 No 🗆
greater of 300 psig o				/
injection pressure. Original chart record	lings must be subm	itted with this form		
•				
Time	<u>Pressure (</u> Annulus	(<u>in psig)</u> Tubing	Casing size 17"	(stral)
9,20	917		Tubing size 4.5	(Fiberglass)
9:30	916		Packer type	
9:40 9:50	916	<u>Z</u>	Packer set @ Top of Permitted In	ection Zone 3937
10,00	915	2_	Is packer 100 ft or le	
10:10	<u>915</u>	<u>z</u> 3	Injection Zone? Ye	
10:20	416	3	If not, please submit Fluid return (gal.)	t a justification.
			Comments:	
Test Pressures:	Max. Allowable	Pressure Change: Ini	itial test pressure x 0.03	28 psi
		. –	est Period Pressure change	psi
Test Passed	Test Failed 🛘			
If failed test well m	oust be shut in no in	niection can occur ai	nd USEPA must be contacted	ed within 24 hours
· · · · · · · · · · · · · · · · · · ·	•	•	ten authorization received b	
recommence.				
I certify under pena	Ity of law that this	document and all atta	achments are, to the best of	my knowledge and
belief, true, accurate	e, and complete. I:	am aware that there a	re significant penalties for	submitting false
information, includ	ing the possibility o	or tine and imprisonn	nent for knowing violations	(See 40 CFR 144.32(d))

Operator EN UNINMENT	tal Geo-technologies	State Permit No. MIS M453
Address 1216 BE	The state of the s	USEPA Permit No. MI-1(03-1W-COI
· · · · · · · · · · · · · · · · · · ·	ichigan 48226	Date of Test 6/26/13
Well Name Well 1-	1 / * * * *	Well Type Class 1 - Hazardows Com
LOCATION INFORMAT	` ,	- · · · · · · · · · · · · · · · · · · ·
		hip 35; County WAYNE;
Company Removantative	SAME, TOWNS	ield Inspector J. Wawczak;
	-	
Type of Pressure Gauge	inch face;	psi full scale; psi increments;
	If no, date of calibration	Calibration certification submitted? Yes No 🗆
TEST RESULTS	t least every 10 minutes for a	5-year or annual test on time? Yes ☐ No ☐
_	or Class II, III and V wells and 60	2-year test for TA'd wells on time? Yes □ No □
minutes for Class I wells.		After rework? Yes □ No □
	s pressure should be at least 300 nnulus pressure should be the	Newly permitted well? Yes ✓ No □
greater of 300 psig or 100	psi above maximum permitted	,
Original chart recordings	must be submitted with this form.	
·	mast oo sacrificad with this form.	
Time	Pressure (in psig)	Casing size 7" (Steel)
n: 25	Amulus Tubing	Tubing size 4.5" (FIDER GIASS)
10:35	1073 3	Packer type
10:45	1009 3	Packer set @
10.55	1069 3	Top of Permitted Injection Zone 3937 Is packer 100 ft or less above top of
11/15	1070 3	Injection Zone? Yes □ No □
11:2.5	1069 2	If not, please submit a justification.
		Fluid return (gal.)
	(Comments:
Test Pressures: Ma	ax. Allowable Pressure Change: Ini	tial test pressure x 0.03 32.2 psi
<i>;</i>		st Period Pressure changeopsi
Test Passed Z	est Failed 🛘	
If failed test, well must be	e shut in, no injection can occur, an	d USEPA must be contacted within 24 hours.
· ·	-	en authorization received before injection can
recommittee.		
		chments are, to the best of my knowledge and
	-	re significant penalties for submitting false ent for knowing violations. (See 40 CFR 144.32(d))
,	. T.	(-)
Printed Name of Compar	ny Representative Signature of Co	ompany Representative Date

Operator CUVITON MENTAL GEO	-technologies	State Permit No. MISM	1457
Address 1216 BEAUDIE	~ · · · \	USEPA Permit No. 1411-	103-1W-CO10
Detroit Michig		Date of Test $6/26$	
أحد أحد الما الما الما الما الما الما الما الم		/) i ' i '	11 5 0
Well Name WEll 2-12	(TEST Z)	Well Type (A 55 1-	Hazardous Lorim
LOCATION INFORMATION		theQuarter of the	•
of Section 12; Range	; Towns	ship 35 ; County W	TINE;
Company Representative K.	nildhouse; F	Field Inspector J. Wawc Z.	ak;
Type of Pressure Gauge	inch face;	psi full scale;	psi increments;
New Gauge? Yes 🗆 No 🗾 If no, da	ite of calibration	Calibration certification submitt	ed? Yes ☑ No □
TEST RESULTS		5-year or annual test on tir	
Readings must be taken at least ever minimum of 30 minutes for Class II	•	2-year test for TA'd wells on tir	ne? Yes 🗆 No 🗆
minutes for Class I wells.	, in and v wens and oo		
For Class II wells, annulus pressure			ork? Yes □ No □
psig. For Class I wells, annulus pre		Newly permitted w	ell? Yes Z No 🗆
greater of 300 psig or 100 psi above injection pressure.	maximum permitted		,
Original chart recordings must be su	ibmitted with this form.		
	re (in psig)	711/	
Time Annulus	Tubing	Casing size 7" (Ste Tubing size 45" (Fib	el)
11:40 1045 11:50 1644	$\frac{-102}{101}$	Packer type	verGlass)
12,00	101	Packer set @	
12:10 1041	101	Top of Permitted Injection	
12:20 1039	101	Is packer 100 ft or less abo	ove top of
12:30 1038		Injection Zone? Yes □ N	
12:46 1039	101	If not, please submit a just	ification.
		Fluid return (gal.) Comments:	
		Comments.	
Test Pressures: Max. Allowa	ible Pressure Change: Ini		<u>3</u> psi
,		est Period Pressure change	psi
Test Passed Test Failed			
•		ad LICED A second by a second of a second	
If failed test, well must be shut in, recorrective action needs to occur, the	-		
recommence.	to the street to the time that the time	ton damonization received boxone	arjection can
I certify under penalty of law that the		•	
belief, true, accurate, and complete information, including the possibility			_
mornion, morning the possion	-, or this and impression	TOTAL TOT MILE THING THOMASONS. (OCC.	10 O. K. 177.72(U))
Printed Name of Company Represe	entative Signature of C	Company Representative	Doto
Trumou readile of Combatty Replesi	errange pignanne of C	ошрану кергезелмиле	Date

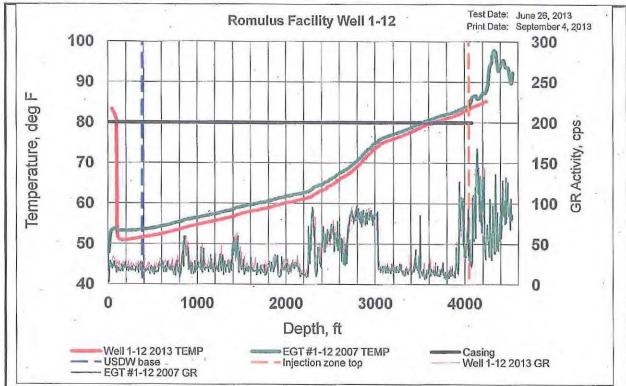
	2		
Operator ENVIRO	NMENTAL GEO-	Technologies	State Permit No. MIS M452
Address [2](o	~ · · · · · · · · · · · · · · · · · · ·	it.	USEPA Permit No. MI-163-IW-COIO
Detroit		11/200	Date of Test 6/26/2013
		48226	A: /
Well Name <u>Well</u>	2-12	(test (1)	Well Type Class 1- Hazardous Comin
LOCATION INFO	RMATION	Quarter of	
of Section \overline{Z}	Range_	Ce ; Towns	ship 35; County WAYNE;
Company Represen	tative Kischild	lhause; F	Field Inspector J. Wawczak ;
Type of Pressure G	auge	inch face;	psi full scale; psi increments;
New Gauge? Yes 🗆	No late o	f calibration	Calibration certification submitted? Yes ☑ No □
TEST RESULTS			5-year or annual test on time? Yes □ No □
	aken at least every 10		2-year test for TA'd wells on time? Yes □ No □
minimum of 30 mir minutes for Class I	nutes for Class II, III	and v wells and ou	
	wens. annulus pressure sho	uld be at least 300	After rework? Yes □ No □
	ells, annulus pressur		Newly permitted well? Yes ☑ No □
	or 100 psi above ma		
injection pressure.		1	
	dings must be subm	itted with this form.	
•			
ma.).	Pressure (7/4
Time	Annulus	Tubing	Casing size (STEEL)
10:30	<u> </u>	101	Tubing size 4.5" (Fiberglass)
10.40	909	101	Packer type U
10:20	907	101	Packer set @
11.00	$\frac{700}{907}$	101	Is packer 100 ft or less above top of
	-101	<u> </u>	
11:20	<u> </u>	101	Injection Zone? Yes □ No □
11:30	<u>909</u>	101	If not, please submit a justification.
			Fluid return (gal.)
			Comments:
Test Pressures:	Max. Allowable	Pressure Change: Ini	tial test pressure x 0.03 27, 2 psi
			st Period Pressure changepsi
Test Passed	Test Failed □		
**************************************			TATOETO A TOTAL CONTRACTOR OF THE CONTRACTOR OF
· ·		_	ad USEPA must be contacted within 24 hours.
	leeds to occur, the wo	en reiesica, and whu	ten authorization received before injection can
recommence.			
L certify under nen:	alty of law that this d	locument and all atta	chments are, to the best of my knowledge and
	-		re significant penalties for submitting false
	· -		ent for knowing violations. (See 40 CFR 144.32(d))
·	5 i	<u>-</u>	(
Printed Name of C	omnany Representat	ive Signature of C	ompany Representative Date

	Operator	
•		
	Environmental GeoTechr	nologies
. 1	US EPA Permit Number Analyst	
2013-037	MI-163-1W-C010	J. Wawczak Analysis Date
	i i	•
		July 26, 2013
	```	Does Injectate Temperature vary?
		No
. 1	•	Is this a Multi-zone Facility?
	December 4, 2012	No
1 .	Hour of Last Injection	Other Zones Used at Facility
	N/A	. NEA
Lau Claire, Wt. Simon		NA Depth to Other Injection Zone, ft
1	'	NA
		nformation For Data Plot, Data Interval, ft
	1	5 Max Log Depth, ft.
1		
		4240 Maximum Logging Speed, ft/min
	1 '	l
_ <u></u>	1	33
Ubserv		Is a contract
Top of Receptive Strata, ft.	Depth of Most Extreme temp above receptive strata, ft	receptive strata, ft
Not Apparent	NA	4050
Bottom of Receptive Strata, ft.	Most Extreme Temp above IZ, deg I	Most Extreme Temp in IZ, deg F
Not Apparent	NA NA	83.20
NA		
		•
		nore than 50 ft. present in cased hole
1		Top of Interval #2, ft
		NA NA
	-	Bottom of Interval #2, ft
		NA NA
· ·	· ·	2
NA .		NA Does this Suggest Flow?
		NA
_	117	1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4
st, the tool was tested in ho	ot water as well as ice wal	ter, per the submitted
s the Well Have Exter	mal Mechanical Integ	grity?
•		
	Well and Operatio Tubing Depth, it  4050 Name of Lowermost USDW  Dundee Limestone Name of Injection Zone Trempealeau, Franconia, Eau Claire, Mt. Simon Total Depth, it  4645 Information High Gauge Temperature, deg. F  135.6 High Thermometer Temp, deg. F  137 Overall Appearance Good? Yes  Observ  Top of Receptive Strata, ft. Not Apparent Bottom of Receptive Strata, ft. Not Apparent Thickness of Receptive Interval, ft NA  Anal Are traces Essentially Congruent? Yes Is there a Pivot Point No If yes, What depth? ft NA  If Yes, What Temp? deg F NA  St, the tool was tested in ho	Well and Operational Information Tubing Depth, it 4050 Name of Lowermost USDW Date of Last Injection Dundee Limestone Name of Injection Zone Trempealeau, Franconia, Eau Claire, Mt. Simon Total Depth, it Volume Injected in Pastyear, gal 4645 O Information High Gauge Temperature, deg. F 135.6 High Thermometer Temp, deg. F 137 Overall Appearance Good? Yes No Observations  Top of Receptive Strata, ft. Not Apparent Thickness of Receptive Interval, ft NA  Analysis  Are traces Essentially Congruent? Yes Is there a Pivot Point NA  If Yes, What Temp? deg F Is Got Stant Temp More or Less that If Yes, What Temp? deg F Is Got Stant Temp More or Less that Is Constant Temp More or Less

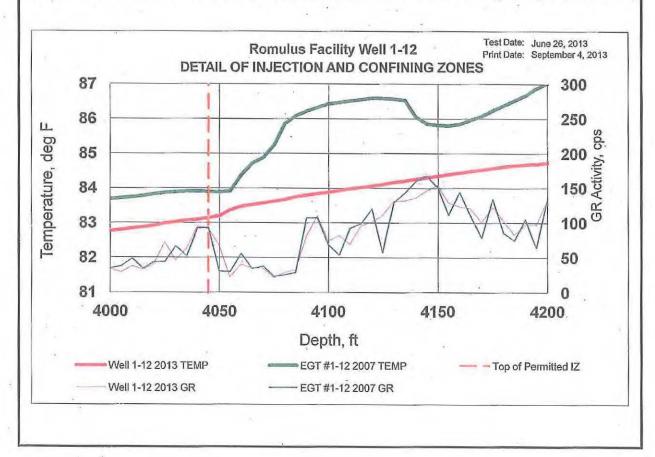
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Version: Temperature log 2009-11-16



The 2013 test mirrors the 2007 test very well. There appears to be a sudden drop in temperature right at the start of the test, this is most likely caused by the hight temperature outside on the testing day. The other major difference is in the injection zone. In the 2013 test the curve remains constant after entering the injection zone. For the 2007 test there was a rise in temperature after entering the injection zone.

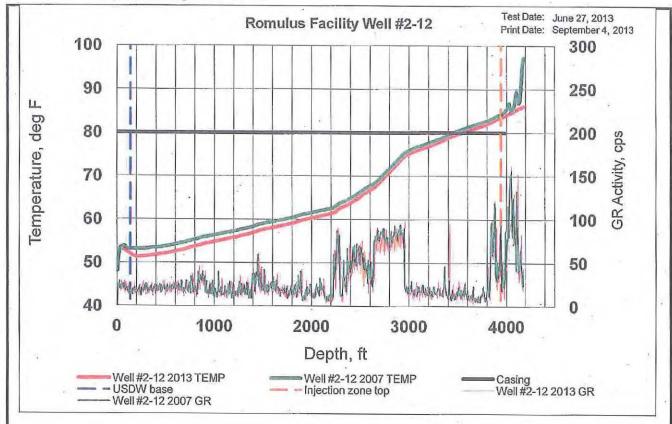


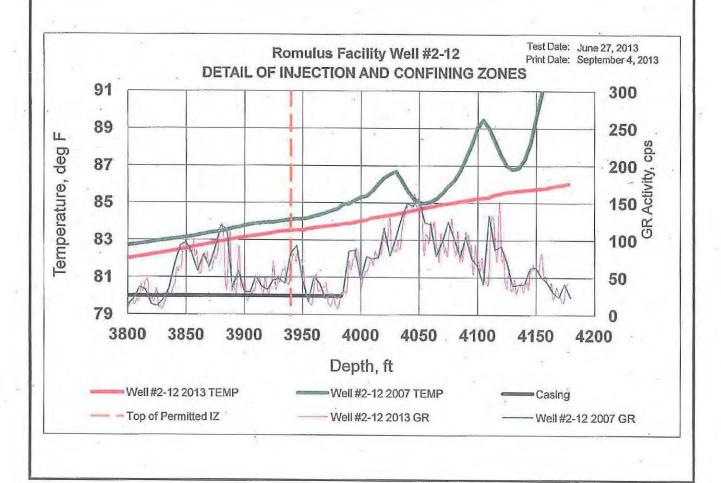
$m{\cdot}$

REVIE	W OF TEMPERATUR	E LOGS FOR PART (	(2) OF MI
Facility Name		Operator .	THE PROPERTY OF THE PROPERTY O
Romulus Facility		Environmental GeoTech	<del></del>
Well Name		USEPA Permit Number	Analyst
Well 1-12		MI-163-1W-C010	J. Wawczak
County	State	Test Date	Analysis Date
Wayne	Michigan	June 26, 2013	July 26, 2013
	CON	MENTS	
near the surface, this The other major differe after entering the injection zone. The	is most likely caused by the ence is in the injection zone ction zone. For the 2007 to be lack of apparent injection	here appears to be a sudd ne hight temperature outsi ne. In the 2013 test the gr est there was a rise in tem on zone in the 2013 is pos m to geothermal tempera	de on the testing day. adient remains constant perature after entering sibly due to the lack of
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		,	•
	•	·	
			<u> </u>
			Page 3

Technologies    Analyst   J. Wawczak     Analysis Date   July 22, 2013     Does Injectate Temperature vary?   No     Is this a Multi-zone Facility?     Other Zones Used at Facility     No
Analyst  J. Wawczak Analysis Date July 22, 2013  Does Injectate Temperature vary? No Is this a Multi-zone Facility?  No Other Zones Used at Facility
1 J. Wawczak Analysis Date July 22, 2013  Does Injectate Temperature vary? No Is this a Multi-zone Facility? No Other Zones Used at Facility
Analysis Date July 22, 2013  Does Injectate Temperature vary? No Is this a Multi-zone Facility?  No Other Zones Used at Facility
July 22, 2013  Does Injectate Temperature vary?  No Is this a Multi-zone Facility?  No Other Zones Used at Facility
Does Injectate Temperature vary?  No Is this a Multi-zone Facility?  No Other Zones Used at Facility
No Is this a Multi-zone Facility?  No Other Zones Used at Facility
No Is this a Multi-zone Facility?  No Other Zones Used at Facility
3 No Other Zones Used at Facility
3 No Other Zones Used at Facility
Other Zones Used at Facility
1
gal Depth to Other Injection Zone, ft
NA
ging Information
For Data Plot, Data Interval, ft
0.25
Max Log Depth, ft.
413
Maximum Logging Speed, it/min
34
above Depth of Most Extreme temp in receptive strata, ft
4172
Z, deg FMost Extreme Temp in IZ, deg F
51.83
And 14 an
p over more than 50 ft. present in cased hold
Top of Interval #2, ft
NA
Bottom of Interval #2, ft
NA
ess than Temp Above?
see man remp ruove!
NA
NA Does this Suggest Flow?
NA

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•
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RE	EVIEW OF T	EMPERATUR	RE LOGS FO	R PART	(2) OF MI	-	
Facility Name			Operator				
Romulus Facility		Environment		hnologies			
Well Name		-	USEPA Permit N		Analyst		
	Well #2-12		MI-163-1W-C011		J. Wa	wczak	
County	State	h 41 - 1- 1-	Test Date		Analysis Date	0040	
Wayne		Michigan .	June 27	7, 2013	July 22	2, 2013	
****		COI	MMENTS				
The 2013 test mito the injection zo the temperature 4200 feet the tem	one. Once in the rapidly increas nperature read	ne injection zone les, for the 2013 ling is almost 10	e the the 2007 ( test it stays at degrees less t	graph has t a steady ri hen in 200	wo small bum sing slope and 7. The absend	ps where d at around be in activity	
for the 2013 test	is most likely (	due to the lack o	of injection activ	ity in the pi	ast few years.		
		-					
			-		•		
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r		-					
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acility Name			R SURVEY FOR		
Romulus Facility	f		Environmental Geo	Technologies	
Vell Name			USEPA Permit Number	Witness	Analyst
Vell 1-12	Hest Date	Hest Number	MI-163-1W-C010 Logging Company	USEPA	Greenhagen Analysis Date
		1	, ,		
<u> Aichigan</u>	June 26, 2013	2013-038	Baker Hughes		July 30, 2013
S Csg Material	ILS Casing OD, in	Casing weight, #/ft	tional Information Casing ID, in	Long String Casing L	ength, ft
Steel and					3.1
Hastelloy	7	26	6.28		080
ubing Material	Tubing OD, in		Tubing ID, in	Tubing Length, ft	
Fiberglass	4.5		3.980	4050	
ail Pipe Material	Tail Pipe OD, in	Tail Pipe, weight#/ft.	Tall Pipe ID, in	Tail Pipe Length, ft	Lail Pipe Depth, ft
		-			
NA	. NA	NA	NA	l _{NA}	l _{NA}
18/7	OpenHole diameter,		PBID, II	Top of Open Interval	
	8.75	4645	N/A	4080	1
acker Model	9.19	Packer Type		Top of Packer, It	Bottom of Packer, ft
C	SPS			4050	4055
		Geologica	I Information		
Name of Lowermost	USDW	Formations in Arrestr	nent Interval	Formations in Injecti	ion Interval
		Di Di Ol			
Dinadaa limaa-f		Black River Gle	nwooa,	Cconic Fo	ı Claire, Mt. Simo
Dundee Limest Base of Lowermost		Trempealeau Depth to top of Arrest	lment Interval, ft	Injection Interval To	
387		3467		4045	•
501			FORMATION	1.0.10	
Tool Zero	BDET, ft below tool :		z IDET, ft below fool zero	MDET, it below tool	zero
0.0	0.0		-8.50	NA	
		CALIBRATIO	N INFORMATION		
Depth BDET, ft	Depth IDE1, ft	BDET CPSPI	Lithology	Maximum Reading,	ШMinimum Reading,
3955	3947	40	Hot (shale)	1.7	0.3
Depth BDE1, ft	Depth TDE1, ft	BDET CPSPI	Lithology	Maximum Reading, LI	1
3802	3794	40	Cool (sandstone)		0
			(BDET) BEFOR		I objection
			olsy, etc. Is calibration the	same as ior statistica	i diecks?
Lithology is dis	cernible on the lo	g			
5					

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ersion of 4/8/1 <b>RE</b>	and the first transfer of the state of the s	OACTIVE TRACER	SURVEY FOR O	EMENT INTE	GRITY
acılıty Name			Operator		
Romulus Facilit	y Well Name		Environmental Ge USEPA Permit Number	oTechnologies Witness	Analyst
Vell 1-12		•	MI-163-1W-C010	USEPA	Greenhagen
fate	Test Date	Test Number	Logging Company		Analysis Date
Michigan	June 26, 2013	2013-038	Baker Hughes	<u> </u>	July 30, 2013
low Rate, gpm	Velocity in tubing, fpri	FIRST SLUG TRAC	NING SEQUENT Deflection on 1st pass, I	שׁב Deflection/Backgrount	dPasses Through Slug
22	34	3149	65.5	38	9
lug Split? yes or no		Moved up, yes or no	Minimum Slug Depth, ft		Maximum Slug Depth, i
No Comments	NA NA	NA NA	NA		4140
	appear to be any	cause for concern with t	he slug tracking se	quence.	•
		FIRST STATIO	NARY TEST		. ,,
	ft  Depth of BDET, ft	BDET to open interval, ft		Injection Rate, gpm	Log Divisions per Minut
4080 jector Depth, ft	4080.0 Depth of TDET, ft	0.0 BDET above deeper of tbg or	30.5 Pass BDET up. LD	22 Pass UDET up, LD	12 Velocity Up, fl/min
good bopin, it	3550.0.1021,11	casing, ft		,,,,,,,, .	
Comments:	4071.5	Zего	179.3	NA	NA
ncreased active of the long strings the appearance of the appearance of the strings of the strin	ity in the bottom d	d below 4071.5 ft, which etector was likely fluid lo FINAL	is well below the p cated inside the ca	acker. This indic	
ncreased active of the long strings the appearance of Yes  On the traces overlayes	rity in the bottom ding casing.  The same as the firm and well above the casing	d below 4071.5 ft, which etector was likely fluid lo FINAL	is well below the pocated inside the ca	acker. This indic	ates that the
ncreased active of the long string s the appearance in Yes Do the traces overla Yes At what depths about	rity in the bottom ding casing.  The same as the firm and well above the casing	d below 4071.5 ft, which effector was likely fluid to FINAL string? shoe? the final log show higher gamma	is well below the p scated inside the ca . LOG	acker. This indic	ates that the
ncreased active of the long string s the appearance in Yes Do the traces overla Yes At what depths about	rity in the bottom ding casing.  The same as the firm and well above the casing	d below 4071.5 ft, which etector was likely fluid lo  FINAL stlog?  shoe?	is well below the p scated inside the ca . LOG	acker. This indic	ates that the
ncreased activ of the long strir s the appearance in Yes The traces overla Yes At what depths abound	ity in the bottom d ng casing.  nuch the same as the fin ay well above the casing we the casing shoe does t appear to be any stationary test anal	d below 4071.5 ft, which effector was likely fluid to FINAL at log?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.	is well below the p cated inside the ca LOG a ray activity?  IENTS  the bottom casing of	acker. This indic sing due to an ec	ates that the didy near the botton
ncreased active of the long strings the appearance of Yes Do the traces overlayes At what depths abound There does no above on the s	ty in the bottom ding casing.  The casing as the first and well above the casing we the casing shoe does appear to be any stationary test and REGULA above the casing shoe?	d below 4071.5 ft, which effector was likely fluid to FINAL string?  shoe?  the final log show higher gamma COMM cause for concern with ysis.  ATORY AND ENFOR Its there movement above the	is well below the pocated inside the calculated inside the calculated.  LOG a ray activity?  IENTS  The bottom casing of the injection intervitors in the calculated in the ca	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased activ of the long strir is the appearance in tes to the traces overla tes at what depths about NA  There does no above on the s is there movement	t appear to be any stationary test anal REGULA	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased activ of the long strir is the appearance in ces to the traces overla ces at what depths about NA  There does no above on the s is there movement HAVE REGULATO YES	t appear to be any stationary test anal REGUL/above the casing shoe?	d below 4071.5 ft, which effector was likely fluid to FINAL string?  shoe?  the final log show higher gamma COMM cause for concern with ysis.  ATORY AND ENFOR Its there movement above the	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased activ of the long strir is the appearance in ces to the traces overla ces at what depths about NA  There does no above on the s is there movement HAVE REGULATO YES	t appear to be any stationary test anal REGULA	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased activ of the long strir is the appearance in ces to the traces overla ces at what depths about NA  There does no above on the s is there movement HAVE REGULATO YES	t appear to be any stationary test anal REGUL/above the casing shoe?	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased active of the long strings the appearance of the long strings the appearance of the second of the traces overladed with the second of	t appear to be any stationary test anal REGULA above the casing shoe?  NO RY OR ENFORCEMEN	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased active of the long strings the appearance of the long strings the appearance of the second of the traces overladed with the second of	t appear to be any stationary test anal REGULA above the casing shoe?  NO RY OR ENFORCEMEN	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased active of the long strings the appearance of the long strings the appearance of the second of the traces overladed with the second of	t appear to be any stationary test anal REGULA above the casing shoe?  NO RY OR ENFORCEMEN	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton
ncreased activ of the long strir s the appearance m Yes Do the traces overla Yes At what depths abov NA  There does no above on the s s there movement HAVE REGULATO YES	t appear to be any stationary test anal REGULA above the casing shoe?  NO RY OR ENFORCEMEN  ons are needed?	d below 4071.5 ft, which etector was likely fluid to FINAL strong?  shoe?  the final log show higher gamm.  COMN  cause for concern with ysis.  ATORY AND ENFORM NO	is well below the pocated inside the call.  LOG  a ray activity?  IENTS  the bottom casing of the injection intervious	acker. This indic sing due to an ec ement at this we	ates that the ddy near the botton

actity Name			Operator			
Romulus Facility	<u>/</u>		Environmental GeoTechnologies USEPA Permit Number IWitness IAnalyst			
	•				Analyst	
Well #2-12 State   Test Date   Test Number		Test Number	MI-163-1W-C011 USEPA Greent Logging Company Analysis		Greenhage Analysis Dafe	
Viichigan	June 27, 2013	2013-040 ·	Baker Hughes		August 14, 20	
		Well and Opera	tional Information	l		
S Csg Material	LS Casing OD, in	Casing weight, #/ft	Casing ID, in	Long String Casing Le	ngth, ft	
Steel and						
Hastelloy Tubing Material	Tubing OD; in	26	Tubing ID. in	। 39 Tubing Length, ग्र	83	
Fiberglass	4.5		3.980	3953		
Tail Pipe Material	Tail Pipe OD, in	Tail Pipe, weight#/ft.	Tail Pipe ID, in	Tail Pipe Length, ft	Tail Pipe Depti	
	•			<b>}</b>		
NA NA	NA OpenHole diameter, in	NA NA	PBTD, ft	NA Top of Open Interval.	NA NA	
	<b>!</b> '		·	1 ' '	1	
Packer Model	8.75	4550 Packer Type	4025	3983 Top of Packer, ft	Bottom of Pac	
C	SPS			3953	3958	
	,	Geologica	ıl Information	-		
Name of Lowermost	USDW	Formations in Arrestn	nent Interval	Formations in Injection	n Interval	
		D. 4 D. O.	,			
Dundee Limest	0.00	Black River Gler Trempealeau	nwood,	Franconia, Eau	Claire Mt C	
Base of Lowermost (		Depth to top of Arrest	ment Interval, ft	Injection Interval Top,	tt	
387		3382		3950	÷	
		1	FORMATION	10000		
Lool Zero	BDE1, ft below tool ze	Ejector, ft below tool:	ZITDET, ft below tool zer	o MDET, it below tool z	ero	
0.0	0.0		-8,50	NA		
	10 . H TOET 4		N INFORMATION			
Depth BDET, ft	Depth TDET, ft	BDET CPSPI	Lithology	Maximum Reading, L	UMinimum Rea	
3855 Depth BDET, ft	3847 Depth 10E1, ft	40   BDET CPSPI	Hot (shale)	2.3 Maximum Reading, LD	0.6 Minimum Readi	
3800	3792	40	· ·	1	0	
3000		1	Cool (sandstone (BDET) BEFOR		Τ	
Appearance of Log,			isy, etc. is calibration the		checks?	
Lithology is dis	cernible on the log					
		·				

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	EVIEW OF RADI	OACTIVE TRACER	SURVEY FOR (	CEMENT INTE	GRITY
Facility Name			Operator		To product the transfer of the
Romulus Facility			Environmental GeoTechnologies		
	Well Name		USEPA Permit Number		Analyst
Well #2-12			MI-163-1W-C011 USEPA Greenhagen		
State	Test Date	Test Number	Logging Company Analysis Date		Analysis Date
Michigan	June 27, 2013	2013-040	Baker Hughes August 14, 2		
		FIRST SLUG TRAC			
low Rate, gpm		Depth of deflection on 1st pass	Deflection on 1st pass,	-	Passes Through Slug
36	56	3793	104.9	45	6
Slug Split? yes or n		Moved up, yes or no	Minimum Slug Depth, ft		Maximum Slug Depth, ft
No	NA	NA NA	NA		4052
Comments					
There does no	t appear to be any o	cause for concern with t		quence.	
		FIRST STATIC			
looi Setting Depth,	it Depth of BDET, it	BDET to open interval, It	Time at station, min	Injection Rate, gpm	Log Divisions per Minute
3980	3980.0	3.0	31.8	36	12
Ejector Depth, ft	Depth of TDET, ft	BDET above deeper of tbg or casing, ft	Pass BDET up, LD	Pass UDET up, LD	Velocity Up, ft/min
	3971.5	3	NA	NA .	NA
Comments:		<u> </u>	***************************************		!
There does no	t appear to be any	cause for concern with t	he stationary test.	•	
		FINAL			
Yes, except be At what depths abo		eet in the bottom detect he final log show higher gamma			
		COMM	ENTS		
(see notes abo however, it is a area should be	ove). Due to this be not likely that it is the e more closely revie th the bottom casing	ray log bottom detector ing only in one detector e result of a problem wit wed during next year's g cement at this well. TORY AND ENFOR	, it is unknown wha th the cement at the tracer survey. Ther	at would cause the base of the longer does not appear	is tool response; g string casing. This
for concern wi	REGULA	TORT AND ENFOR			anorm?
		is there movement above the	ton of the injection inter-		HUCTH:
		is there movement above the NO		ans mere cause tor co	
ls there movement	above the casing shoe? NO	NO		ans mere cause for co	NO
is there movement	above the casing shoe? NO			als mele cause to co	
is there movement HAVE REGULATO YES	above the casing shoe? NO ORY OR ENFORCEMENT	NO		ans meje cause (o) cu	
is there movement HAVE REGULATO YES	above the casing shoe? NO	NO		als mere cause to co	
Is there movement HAVE REGULATO YES	above the casing shoe? NO DRY OR ENFORCEMENT Ions have been taken?	NO		als mere cause to co	
is there movement  HAVE REGULATO  YES  What follow-up act	above the casing shoe?  NO  DRY OR ENFORCEMENT  ions have been taken?  ions are needed?	NO		als mere cause to co	

		·